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## A Redescription of the Tribe Chiasognathini, with the Descriptions of a New Species and a New Subspecies of the Genus *Sphaenognathus* Buquet (Coleoptera: Lucanidae)<sup>1</sup>

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This paper is presented to describe the tribe Chiasognathini and to describe two new forms in the collection of the Academy of Natural Sciences of Philadelphia.

### Tribus CHIASOGNATHINI Burmeister

- CHIASOGNATHIDAE Burmeister, 1847, *Handbuch der Entomologie* 5: 315, 316, 334-342, 535, 536.
- CHIASOGNATHIDES Lacordaire, 1856, *Genera des coléoptères* 3: 10-14.
- CHIASOGNATHITAE Thomson, 1862, *Ann. Soc. Ent. France* ser. 4, 2: 391, 405-410 (on p. 392, Thomson gives the name as Chiasognatitae).
- CHIASOGNATHIDAE Parry, 1864, *Trans. Ent. Soc. London* ser. 3, 2(1): 67-70.
- CHIASOGNATHIDAE van Vollenhoven, 1865, *Tijdschr. Ent.* 8: 140.
- CHIASOGNATHIDAE Parry, 1870, *Trans. Ent. Soc. London* 1870, pt. 1: 104-105.
- CHIASOGNATHIDAE Parry, 1874, *Trans. Ent. Soc. London* 1874, pt. 3: 365-370.
- CHIASOGNATHINI Felsche, 1898, *Verzeichniss der Lucaniden*, pp. 6-14.
- CHIASOGNATHINI van Roon, 1905, *Tijdschr. Ent.* ser. 2, 48: 84-91.

<sup>1</sup> This study was made possible by a 1961 summer appointment as a Jessup Fund student at the Academy of Natural Sciences of Philadelphia.

- CHIASOGNATHINAE van Roon, 1910, *Coleopterorum Catalogus* 19, pars 8: 4-8.
- LAMPRIMINI Schröder, 1924, *Handbuch der Entomologie* 3: 695.
- CHIASOGNATHINAE Blackwelder, 1944, *Bull. U. S. Nat. Mus.* no. 185: 195.
- CHIASOGNATHINAE Didier and Séguy, 1953, *Encycl. Ent. ser. A*, 27: 12, 70-73.
- CHIASOGNATHINI Benesh, 1960, *Coleopterorum Catalogus Supplementa* pars 8: 149-152.

*Original diagnosis*: "Lam. pectin. labro exserto, coriaceo, immobili, connato cum clypeo; maxillarum mandone utriusque sexus membranaceo ciliato; ligula elongata, biloba penicillata, menti paginae internae affixa, antennis longis fractis, flabello 6-phyllo; oculis septo completo divisus. Prosterno lamella parva angusta descendente."

*Description*: Lucanidae of medium size (length 24 mm to 75 mm); body elongate, convex. Head small, transverse, subtrapezoidal, never broader than pronotum; labrum and clypeus united, projected beyond anterad angles; maxillary palpi more than twice as long as labial palpi; mentum subtriangular, slightly notched at apex; mandibles longer than head, armed internally with short spines in male; ligula elongate, bilobed, penicillate; antennae slender, 10-segmented, clava 6-segmented, scape somewhat thickened distally, base of antennae hidden underneath anterad angles; eyes convex, completely divided by canthus. Pronotum transverse, subtrapezoidal, almost always with acute posterad angles, sometimes pitted or roughened. Elytra subparallel, subtruncate, often sculptured; humeri occasionally forming spine-like projections. Abdomen with five visible ventral segments, eight dorsal, clothed with fine hairs beneath. Anterior coxae oblong, attaining the pronotal epipleura; legs slender in male, stouter in female, armed with short spines in both sexes. Wing with two detached anal veins.

*Type genus*: *Chiasognathus* Stephens.

*Range*: Venezuela, Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina.

*Table of Genera*

- Clypeus projected beyond anterad angles, usually pointed; antennal scape of male long, one and one-half to three times as long as funicle and clava together; elytra of both sexes practically free of sculpture. . . . . **Chiasognathus** Stephens.
- Clypeus not pointed in front; antennal scape of male not much longer than funicle and clava together; elytra usually sculptured. . . . . **Sphaenognathus** Buquet.

**Sphaenognathus rehni** Moxey, species novum.

*Male*: Elongate, subparallel, subelliptical in profile; ferruginous, margins and tarsi deeper, nearly black; venter and underparts of thorax clothed with dense fulvous pubescence, head ventrally finely clothed with pubescence.

Head transverse, produced in front and truncate, faintly granulate, horizontal, with faint median furrow; epicranium dorsally nearly glabrous, ventrally sparsely clothed; antero-laterad angles acute; lateral margins emarginate, gently convergent posteriorly; anteocular area elevated. Eyes small, convex, ovate, completely divided by canthus; canthus broad, densely clothed with pubescence. Clypeal suture rounded subtrapezoidal; clypeus rugose, with two antero-laterad tuberculate excrescences, fused with labrum; mandibles amphiodont, longer than head and pronotum together, incurved in apical third, inner margin with numerous teeth, upper margin finely denticulate, sparsely pubescent and finely granulate throughout, with dense pubescence in dorsal part of apical fourth, and small setae in ventral basal area, dorsal spiniform projection in basal third reduced; mentum subtriangular, emarginate at apex; gula annulate in posterior half. Antennae slender; scape piceous, club-shaped, gently bowed, knob-like distally; base hidden under antero-laterad angle, longer than either funicle or clava; funicle three-segmented, first segment subglobulose, second segment regularly dilated from base to apex, twice as long as first, third segment similar to second but slightly shorter; clava 6-segmented, rufous, subopaque, divergent apically, finely setose, terminal segment thickest.

Pronotum transverse, strongly convex; anterior margin sinuate; antero-laterad angles obtuse, not acicular; sides divergent posteriorly; postero-laterad angles obtuse, acicular; posterior margin faintly sinuate. Disc with faint median canaliculation, subrugose, strongly punctate; lateral area with fulvous pubescence; marginal pit obscure.

Scutellum semi-circular, with fine fulvous pubescence.

Elytra subparallel, faintly sculptured, gently rounded distally, remotely punctate (punctures not discernible to naked eye); humeri pointed.

Space between elytra and pronotum clothed with dense pubescence.

Femora fairly stout, unarmed, remotely punctate, clothed beneath with sparse pubescence. Tibiae curved; anterior nude, but armed internally with four spine-like projections, outer margin denticulated; intermediate with sparse pubescence, armed externally with four spines; posterior with sparse pubescence, armed externally with four spine-like projections. Tibial spurs slightly curved. Tarsi piceous, setose beneath; tarsal claws large, simple.

*Type*: Male; Santa Marta, COLOMBIA; John W. Angell Collection (Collection of the Academy of Natural Sciences of Philadelphia, Type number, 8271).

*Female*: Elongate, subparallel, stouter than male. Color similar; pubescence almost entirely wanting.

Head transverse, produced but slightly in front, faintly granulate, horizontal, median furrow similar to male; epicranium dorsally roughly punctate, ventrally sparsely clothed; antero-laterad angles subacute; lateral margins emarginate, gently convergent posteriorly; anteocular area but slightly elevated. Eyes small, convex, more rounded than in male, completely divided by canthus; canthus with more elevated margin than male. Clypeus roughly punctate, two excrescences wanting; mandibles stout, short, roughly punctate throughout, clothed with fine hairs internally; mentum not as broad as in male; gula annulate as in

male, but not as long. Antennae stouter, color similar to male; scape club-shaped, slightly bowed, knob-like distally, two-thirds the length of scape; funicle and clava similar to male, but stouter.

Pronotum transverse, glabrous, strongly convex; antero-laterad angles obtuse, not acicular; side margins diverging posteriorly to posterior margin; postero-laterad angles obtuse, not acicular; posterior margin faintly sinuate. Disc with median canaliculation extremely faint, strongly punctate; lateral area not so strongly punctate; marginal pit pronounced.

Space between elytra and pronotum nearly bare.

Femora and tibiae stouter than in male. Anterior tibiae with internal spination wanting; intermediate with sparse pubescence, armed externally with three spines; posterior with sparse pubescence, armed externally with one reduced spine-like projection. Tibial spurs slightly curved. Tarsi piceous, setose beneath; tarsal claws large, simple.

*Allotype*: Female; Santa Marta, Colombia; John W. Angell Collection (Collection of the Academy of Natural Sciences of Philadelphia, Type number, 8271.1).

*Measurements*: Length of head in male, 6 mm; length of head in female, 3.5 mm; width of head in male, 11 mm; width of head in female, 7 mm; length of mandibles in male, 17 mm; length of mandibles in female, 4 mm; length of pronotum in male, 9 mm; length of pronotum in female, 7.5 mm; width of pronotum in male, 15.5 mm; width of pronotum in female, 13 mm; length of elytra in male, 23.5 mm; length of elytra in female, 21 mm; width of elytra in male, 16 mm; width of elytra in female, 15 mm.

*Remarks*: I have named this new species after Mr. James A. G. Rehn, Chairman of the Department of Insects of the Academy of Natural Sciences of Philadelphia.

This species differs from its nearest relative, *Sphaenognathus nobilis* Parry, in coloration, vestiture, armature of the legs, general profile of the body, and comparative size of the genitalic structures. (The male genitalia in *rehni* are much larger and stouter than those of *nobilis*.)

*Sphaenognathus nobilis* subspecies *colombiensis* Moxey, subspecies novum.

*Male*: Elongate, similar in shape to *Sphaenognathus nobilis* Parry, but more convex; aeneous Prussian green, pubescence generally wanting; body smaller than *nobilis*; head, pronotum, and elytra granulate.

Head transverse, smaller than *nobilis*, produced in front and truncate; eye canthus glabrous. Mandibles finely granulate throughout, with long hairs in ventral portion of distal fourth. Antennae similar to *nobilis*, but slenderer.

Pronotum smoother than *nobilis*, antero-laterad angles slightly rounded.

Scutellum semi-circular, nude.

Elytra subovoid in outline, strongly convex; humeri pointed.

Femora slenderer than *nobilis*; tibiae less profusely armed, pubescence less dense.

*Type*: Male, Santa Marta, Colombia; John W. Angell Collection (Collection of the Academy of Natural Sciences of Philadelphia, Type number, 8272).

*Paratype*: Male; Santa Marta, Colombia; John W. Angell Collection (Collection of the Academy of Natural Sciences of Philadelphia, Type number, 8272.1).

*Female*: Unknown.

*Remarks*: This new subspecies from Colombia may be distinguished at once by its coloration, slenderer build, and greater convexity.